CHBE 390 – Kinetics and Reactor Design Credits 3.00

Section 003	*TR 1:00-2:15 pm*	*Room DCH 1046*
Section 004	*TR 9:25-10:40 am*	*Room KCK 102*

Faculty	Dr. Michael S. Wong	Room AL-B217	mswong@rice.edu
	Dr. Joshua E. Bennett	Room AL-B238	jb77@rice.edu
Teaching Assistants	Ms. Camilah Powell		cdp5@rice.edu
	Ms. Yan Xu		yx28@rice.edu
	Mr. Yiyuan "Ben" Yin		yy32@rice.edu
	Mr. Mitchell Trafford		mt22@rice.edu

Overview General areas that are covered in this course are (1) principles of chemical kinetics; (2) analysis of reaction rate data; (3) heterogeneous catalysis; (4) ideal reactor design and sizing; and (5) heat effects in reactor design.

Required Text H. Scott Fogler, Elements of Chemical Reaction Engineering, 4th Ed. (2006)

Optional Reading
M. E. Davis and R. J. Davis, Fundamentals of Chemical Reaction Engineering (2002)
C. G. Hill, Jr., An Introduction to Chemical Engineering Kinetics and Reactor Design (1977)
O. Levenspiel, Chemical Reaction Engineering, 3rd Ed. (1999)
L. D. Schmidt, The Engineering of Chemical Reactions (1998)

Coursework and Grading

Problem sets	(25%)	9 assignments will be handed out throughout the semester, due on Thursdays. The TA's will grade the assignments. The homework should follow a particular format, as will be described in PS #1 (assigned Aug. 27 (Th); due Sept. 3(Th)). There will be some pledged problems and some extra credit problems. *Late policy*: 10% off total score for every 24-hr period beyond the due date and time, that the entire assignment is late
Examinations		
Midterm #1	(20%)	One in-class, 75 min exam. Open book (Fogler) + open notes. Tentative dates: Oct 8(Th)
Midterm #2	(20%)	Scheduled 2-hr exam. Closed book (Fogler) + open notes. Tentative date and time: Nov. 9 (M), 7-9 pm
Final exam	(35%)	Scheduled 3-hr exam. Open book (Fogler) + open notes.

Office Hours Dr. Wong: Thursdays, 4-5 pm, my office (email me to secure a time)
Dr. Bennett: Tuesdays, 4-6 pm, my office (email me to secure a time)

Pre-exam Recitations To be arranged by Dr. Bennett

TA Office Hours Mon 4:30-6:30 PM, Wed 4:30-6:30 PM
Office hours will be held by the 2 TAs grading that week's assignment

TA Office Hours Location Conference Room AL-B237

OWL-Space Please check the CHBE 390 OWL-Space regularly for announcements, lecture notes, resources, and homework assignments. You are responsible for reading all of the OWL-Space announcements in a timely fashion.

Homework Code Policies

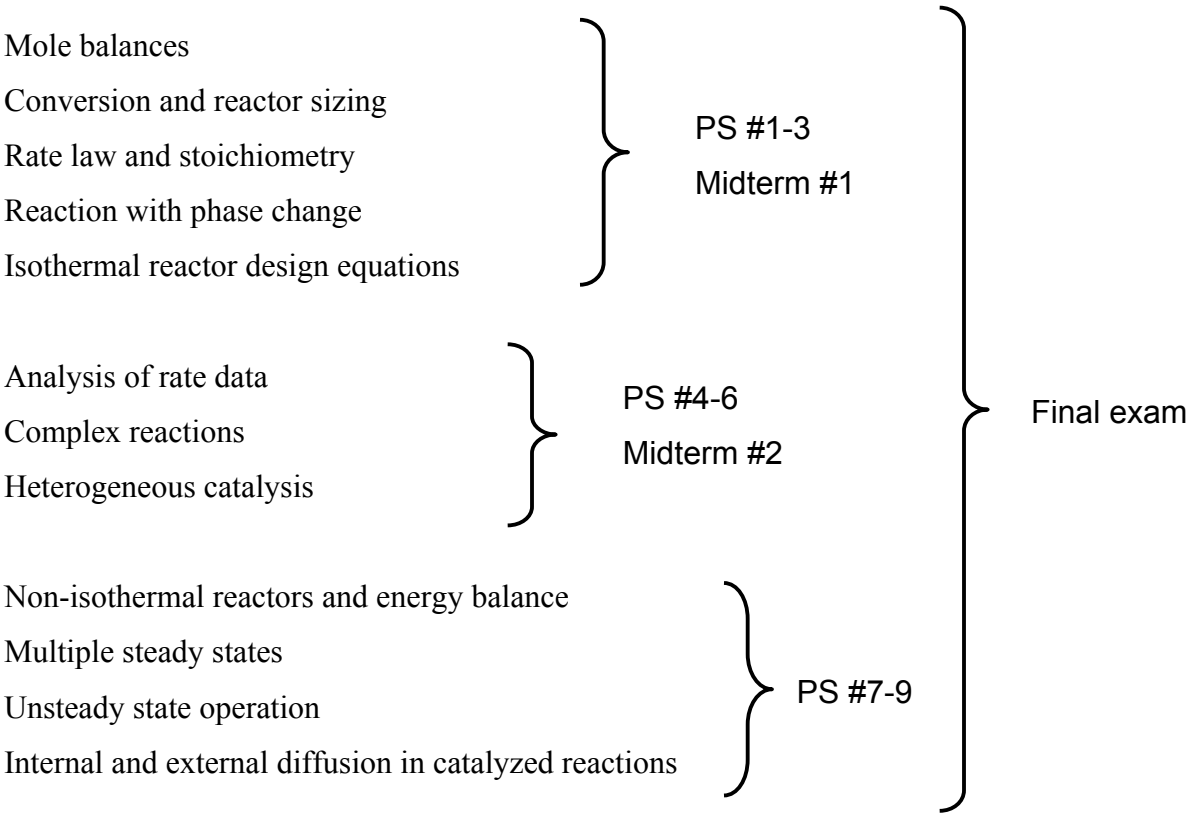
Students are encouraged to talk to each other, the teaching assistants, the instructor, or anyone else about any homework assignment in the course that is not specifically designated as pledged. This assistance is limited to the discussion of the problem and perhaps sketching of a solution. Consulting another student's solution (even from a previous class) is prohibited, and submitted solutions to assignments may not be copied from any source. Information about the Rice Honor System can be found at http://honor.rice.edu/

Attendance In accordance with the policy stated in the general announcements (http://ga.rice.edu/UG_attendance/), attendance is required. Attendance at all lectures, exams, and tutorial sessions are important for successful completion of this course. If any extenuating circumstances prevent your attendance, you are expected to notify the instructor by email in advance. If you do not receive a return email confirming agreement, you must contact the instructor by other means. If medical or other circumstance makes advance notification impossible, you are expected to submit justification for your absence in writing. Those excused from class are still responsible for all handout and lecture materials.

Information Contained in This Syllabus

The information contained in this course syllabus, other than the absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Lecture Topics



Note: Guest lecture in October by Dr. Michael A. Reynolds (adjunct professor, CHBE; Shell Exploration & Production Company)

Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with Drs. Wong or Bennett during the first two weeks of class. All discussions will remain as confidential as possible. Students with disabilities will need to also contact Disability Support Services (x5841) in the Allen Center.